

FEATURES

- Covers the band from 28.0 GHz to 31.0 GHz (in sub-bands)
- Remote Monitor & Control
- High gain and linearity
- Output power 100W
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- Power factor correction
- CE Marking

OPTIONS

- Ethernet Interface
- Receive Reject Filter
- Redundant system

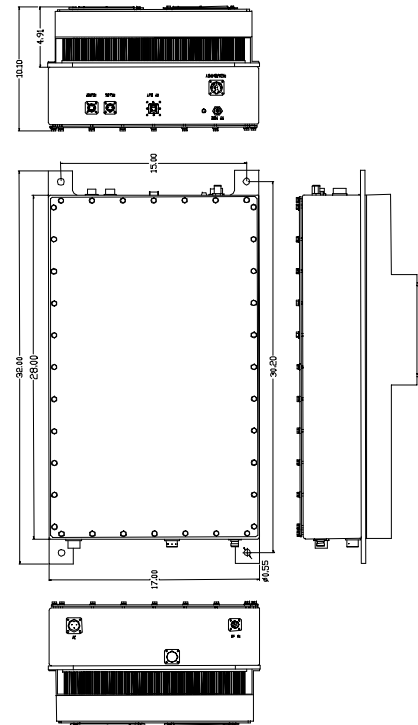
OVERVIEW

The AWMA-Ka series are the outdoor solid-state power amplifiers (SSPA's), operating in Ka-band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for outdoor operation, the AWMA-4000Ka® are weatherproof and provide the utmost in convenience and efficiency. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

Advantech's hub-mount SSPA's set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

REDUNDANCY

With the addition of the appropriate waveguide and switch kit, the AWMA-4000Ka® amplifiers can be easily converted for the operation in 1:1 redundant configuration with full remote monitor and control capability of the redundant system via serial interface. Single Monitor and Control interface is required to manage redundant system.



APPLICATION

The SSPA's are designed for Ka-band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-Ka series are available in output power from 2W to 100W.

More SSPA's are available for operation at other satellite frequency bands. Also available from Advantech are the SSPB series with all the features of the AWMA-Ka plus a built-in block up-converter. Please contact Advantech AMT for more information.

Ka-BAND HUB-MOUNT SSPA 100W
 AWMA-4000Ka® series



| TECHNICAL SPECIFICATIONS | | 100W | | | |
|---|--|----------------|--------------------------|--|------------|
| Electrical Characteristics | | | | | |
| Frequency range | 28.0 – 31.0 GHz (in sub-bands) | | | | |
| Output power (P _{SAT}) (dBm) | +50 | | | | |
| Output power (P1dB) min. (dBm) | +49 | | | | |
| Conversion gain @ maximum setting | 60 dB min | | | | |
| Max input power without damage | +5 dBm | | | | |
| Gain flatness | ±2.0 dB max over 500 MHz, ± 0.5 dB over 40 MHz @25°C | | | | |
| Gain slope | 0.04 dB/MHz, max | | | | |
| Gain variation over temperature | ±1.5 dB over full operating range | | | | |
| Gain variation over 24 hours | ±0.25 dB max at constant temperature & drive level | | | | |
| Gain adjustment range | 20 dB min (1 dB steps) | | | | |
| Input VSWR | 1.4:1 | | | | |
| Output VSWR | 1.4:1 | | | | |
| Noise Power Density | Transmit band: -70 dBW/4kHz Receive band: -150 dBW/4kHz (with optional RRF) | | | | |
| Spurious at rated power | -65 dBc max | | | | |
| Harmonics at rated power | -65 dBc max | | | | |
| AM/PM conversion | <2°/dB @ 3 dB back-off | | | | |
| Third order IMD (2 equal tones 5 MHz apart) | -24 dBc max @ 6 dB total back-off from rated P1dB | | | | |
| Group Delay | Linear: 0.01 nsec/MHz max. Parabolic: 0.002 nsec/MHz ² max. Ripple: 0.5 nsec p-p max. | | | | |
| Residual AM (F* - frequency in kHz) | 0 -10 kHz -45 dBc 10 kHz -500 kHz -20 (1.25+log F*) dBc 500 kHz - 1 MHz -85 dBc | | | | |
| Power Requirements | | | | | |
| AC input voltage | 220 VAC (47-63 Hz) | | | | |
| Power consumption, (nominal) (W) | 1750 | | | | |
| Mechanical Characteristics | | | | | |
| Dimensions (L x W x H) | 32"x 17" x 10" (81.28 x 43.18 x 25.4 cm) | | | | |
| Weight (nominal) | 101.3 lbs (46 kg) | | | | |
| Interfaces: | RF input | WR28 cover | Redundancy MS3112E16-26P | RF output | WR28 cover |
| | Discrete port | MS3112E12-10P | RS-232 MS3112E10-6P | | |
| | AC Line | MS3102E20-19P | RS-485 MS3112E10-6P | | |
| Environmental Conditions | | | | | |
| Temperature | Operating | -30°C to +55°C | | Option 1: -40°C to +55°C; option 2: -50°C to +50°C | |
| | Storage | -55°C to +85°C | | | |
| Humidity | 100%, condensing (2" rain/hour) | | | | |
| Altitude | 10,000' AMSL, derated 2°C/1,000' from AMSL | | | | |



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Specifications are subject to change without notice

An ISO9001: 2000 Company



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Ka-band High Power SSPA